

Samson, Harvey S.

2018 – 00542

Exercise 2: Changing Images

- Getting setup

```
root@f7ff9b8e0939: /
Microsoft Windows [Version 10.0.18363.1556]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Harvey Samson>docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
Digest: sha256:9775877f420d453ef790e6832d77630a49b32a92b7bedf330adf4d8669f6600e
Status: Image is up to date for ubuntu:16.04
docker.io/library/ubuntu:16.04

C:\Users\Harvey Samson>docker run -it ubuntu:16.04 /bin/bash
root@f7ff9b8e0939:/# ping google.com
bash: ping: command not found
root@f7ff9b8e0939:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:6 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:10 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [984 kB]
Get:11 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
Fetched 19.4 MB in 1min 46s (182 KB/s)
Reading package lists... Done
root@f7ff9b8e0939:/# apt-get install iputils-ping
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl127 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl127 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 5 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3781 kB of additional disk space will be used.
```

```
root@f7ff9b8e0939: /
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libgmp10:amd64.
(Reading database ... 4785 files and directories currently installed.)
Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...
Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Selecting previously unselected package libnettle6:amd64.
Preparing to unpack .../libnettle6_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libhogweed4:amd64.
Preparing to unpack .../libhogweed4_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libidn11:amd64.
Preparing to unpack .../libidn11_1.32-3ubuntu1.2_amd64.deb ...
Unpacking libidn11:amd64 (1.32-3ubuntu1.2) ...
Selecting previously unselected package libffi6:amd64.
Preparing to unpack .../libffi6_3.2.1-4_amd64.deb ...
Unpacking libffi6:amd64 (3.2.1-4) ...
Selecting previously unselected package libp11-kit0:amd64.
Preparing to unpack .../libp11-kit0_0.23.2-5-ubuntu16.04.2_amd64.deb ...
Unpacking libp11-kit0:amd64 (0.23.2-5-ubuntu16.04.2) ...
Selecting previously unselected package libtasn1-6:amd64.
Preparing to unpack .../libtasn1-6_4.7-3ubuntu0.16.04.3_amd64.deb ...
Unpacking libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Selecting previously unselected package libgnutls30:amd64.
Preparing to unpack .../libgnutls30_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package libgnutls-openssl127:amd64.
Preparing to unpack .../libgnutls-openssl127_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls-openssl127:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package iputils-ping.
Preparing to unpack .../iputils-ping_3%3a20121221-Subuntu2_amd64.deb ...
Unpacking iputils-ping (3:20121221-Subuntu2) ...
Processing triggers for libc-bin (2.23-0ubuntu11.2) ...
Setting up libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Setting up libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libidn11:amd64 (1.32-3ubuntu1.2) ...
Setting up libffi6:amd64 (3.2.1-4) ...
Setting up libp11-kit0:amd64 (0.23.2-5-ubuntu16.04.2) ...
Setting up libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Setting up libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Setting up libgnutls-openssl127:amd64 (3.4.10-4ubuntu1.8) ...
Setting up iputils-ping (3:20121221-Subuntu2) ...
Setcap is not installed, falling back to setuid
Processing triggers for libc-bin (2.23-0ubuntu11.2) ...
root@f7ff9b8e0939:/#
```

Committing changes

```
root@ee90d5aedaf2:/

C:\Users\Harvey Samson>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS   NAMES
f7ff9b8e0939   ubuntu:16.04  "/bin/bash"             12 minutes ago    Exited (0) 5 minutes ago           nifty_hofstadter

C:\Users\Harvey Samson>docker commit --help

Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]

Create a new image from a container's changes

Options:
  -a, --author string      Author (e.g., "John Hannibal Smith
                           <hannibal@a-team.com>")
  -c, --change list        Apply Dockerfile instruction to the created image
  -m, --message string      Commit message
  -p, --pause              Pause container during commit (default true)

C:\Users\Harvey Samson>docker commit -a "David Elner" -m "Added ping utility." 786 delner/ping
Error response from daemon: No such container: 786

C:\Users\Harvey Samson>docker commit -a "David Elner" -m "Added ping utility." f7f delner/ping
sha256:cd0a93f1915ff26bf248f1c2b39b49a8cbd1fc0e1fe6e2454aad288a4f8e957b

C:\Users\Harvey Samson>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
delner/ping    latest    cd0a93f1915f   8 seconds ago  170MB
ubuntu        16.04     9ff95a467e45   9 days ago    135MB

C:\Users\Harvey Samson>docker run -it --rm delner/ping/ /bin/bash
docker: invalid reference format.
See 'docker run --help'.

C:\Users\Harvey Samson>docker run -it --rm delner/ping /bin/bash
root@ee90d5aedaf2:/# ping google.com
PING google.com (216.58.197.206) 56(84) bytes of data:
64 bytes from 216.58.197.206: icmp_seq=1 ttl=37 time=99.3 ms
64 bytes from 216.58.197.206: icmp_seq=2 ttl=37 time=130 ms
64 bytes from 216.58.197.206: icmp_seq=3 ttl=37 time=158 ms
^C
--- google.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2000ms
rtt min/avg/max/mdev = 99.392/129.398/158.292/24.060 ms
root@ee90d5aedaf2:/#
```